

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-18 and 20 are pending in the present application with Claims 9-14, 16, 17, and 20 withdrawn from consideration. Claim 1 is amended by the present amendment.

In the outstanding Office Action, Claims 1-8, 15, 18, and 19 were rejected under 35 U.S.C. §103(a) as unpatentable over Saito (Japanese Patent No. 63-166254) in view of Honda et al. (U.S. Patent No. 6,849,805 B2, herein "Honda"), which is respectfully traversed for the following reasons.

Independent Claim 1 has been amended to recite that each lead is joined to a heat sink or located near the heat sink in a plastic package. The claim amendment finds support in Figure 2A and in its corresponding description in the specification. No new matter has been added.

Briefly recapitulating, independent Claim 1 is directed to a semiconductor device of an insertion-mount-type that includes, *inter alia*, a plastic package, a plurality of leads protruding outward from the plastic package, and one or more semiconductor elements protected by the plastic package. At least one of the semiconductor elements is a power semiconductor element and each of the leads is joined to a heat sink or located near the heat sink in the plastic package. In a non-limiting example, Figure 2A shows the plastic package 10, the power semiconductor element 2, the plurality of leads 4, and the heat sink 8.

The device of Claim 1 advantageously allows the heat necessary of soldering to escape to the heat sink because the leads are joined to the heat sink or located near the heat sink. Moreover, if Pb-free solder having a liquidus-line temperature higher than of normal

Pb-Sn eutectic solder is used, the heat may increasingly escape. Accordingly, the solderability of the device may be lowered with the device of Claim 1.

Further, because the heat resistance of the heat-release paths of the device of Claim 1 extend from the leads to the package or heat sink is increased by the second lead portions whose sectional areas are small, the solderability of the device may be effectively improved. Therefore, the semiconductor device can be easily and securely mounted to the external electric member.

Turning to the applied art, Saito shows in Figures 2 and 4 a semiconductor device having a resin package 1 from which a lead 2 protrudes and is soldered to a board 21. However, Saito is silent about the lead 2 being connected to a power semiconductor device, as required by Claim 1. In addition, Saito does not teach or suggest that *each* lead 2 is joined to a heat sink or located near the heat sink in a plastic package as required by amended Claim 1.

Honda has been considered but does not cure the deficiencies of Saito discussed above.

Accordingly, it is respectfully submitted that independent Claim 1 and each of the claims depending therefrom patentably distinguish over Saito and Honda, either alone or in combination.

Consequently, in light of the above discussion and in view of the present amendment, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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